UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
PETRANEK, JACOB ANDREW

ART UNIT	PAPER NUMBER
2183	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

Office Action Summary		Application No.	Applicant(s)
		10/632,069	CHAUVEL ET AL.
		Examiner	Art Unit	
		Jacob Petranek	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *30 June 2006*.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-30* is/are pending in the application.

　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *16-30* is/are allowed.

6) ☒ Claim(s) *1-6 and 8-15* is/are rejected.

7) ☒ Claim(s) *7* is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　a) ☐ All　b) ☐ Some * c) ☐ None of:

　　1. ☐ Certified copies of the priority documents have been received.

　　2. ☐ Certified copies of the priority documents have been received in Application No. _____.

　　3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
　Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
　Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-30 are pending.

2.   The office acknowledges the following papers:

Specification, drawings, claims, and arguments filed on 6/30/2006.

Withdrawn objections and rejections

3.   The specification objections have been withdrawn due to amendment.

4.   The drawing objections have been withdrawn due to amendment.

Allowable Subject Matter

5.   Claims 16-30 are allowed.

6.   Claim 7 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Claim objections

7.   Claim 15 is objected to because of the following informalities: Claim 9 currently

states refraining from decoding the predetermined prefix. Claim 15 states that the

predetermined prefix is decoded. These two claim limitations conflict. Appropriate

correction is required.

New Claim Rejections - 35 USC § 101

8.   Claims 9-15 are rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter, the claimed invention lacks patentable utility, or

the disclosed invention is inoperative and therefore lacks utility. Claims 9-15 fail to

relate to a practical application that produces a useful, concrete, and tangible result

without the step of executing the system command.

New Claim Rejections - 35 USC § 112

9.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

10.   Claims 9-15 are rejected under 35 U.S.C. §112, first paragraph, as containing

subject matter which was not described in the specification in such a way as to enable

one skilled in the art to which it pertains, or with which it is most nearly connected, to

make and/or use the invention.

Claim 9 recites "refraining from decoding the predetermined prefix." The

specification recites that the pre-decode logic 152 may be used to detect a

predetermined prefix. The pre-decoder does a partial decoding of the bytecode. Thus,

the specification fails to enable one of ordinary skill in the art how the predetermined

bytecode can be detected without being decoded.

11.   Claims 9-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 9 recites "refraining from decoding the predetermined prefix." The specification recites that the pre-decode logic 152 may be used to detect a predetermined prefix. The pre-decoder does a partial decoding of the bytecode. Thus, the specification doesn't have possession of the claimed invention.

12.   Claims 10-15 are rejected due to their dependency.

13.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14.   Claims 9-15 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 recites "refraining from decoding the predetermined prefix." The specification recites that the pre-decode logic 152 may be used to detect a predetermined prefix. The pre-decoder does a partial decoding of the bytecode. It's unclear how the predetermined bytecode can be detected without being decoded. For examination purposes, this limitation will not be examined.

15.   Claims 10-15 are rejected due to their dependency.

Maintained Claim Rejections - 35 USC § 102

16.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

17.   Claims 1-4 and 8 are rejected under 35 U.S.C. §102(e) as being anticipated by

McGrath et al. (U.S. 6,560,694).

18.   As per claim 1:

McGrath disclosed a processor, comprising:

Decode logic adapted to decode system commands (McGrath: Column 9 lines

26-55)(It's inherent that the processor decodes the SYSCALL instruction so that the

correct call to an OS routine can be made.) and instructions in a first mode and in a

second mode, wherein the first mode corresponds to a first instruction set and the

second mode corresponds to a second instruction set (McGrath: Figures 5 and 6,

column 10 lines 20-62)(Figure 6 shows multiple instruction sets accessed through mode

bits. One instruction set could be the ISA operating in 16 bits and another instruction

set could be the ISA operating in 32 bits.), and wherein the system commands are

accessible in either mode through a common Bytecode (McGrath: Column 9 lines 26-

55)(A Bytecode is an instruction that can be executed by a processor. A plurality of

Bytecodes can comprise an instruction. Either ISA can call an OS routine through a

SYSCALL instruction, which is a plurality of Bytecodes in length.).

19.   As per claim 2:

McGrath disclosed the processor of claim 1, wherein the system commands

belongs to the first instruction set (McGrath: Column 9 lines 26-55)(The SYSCALL

instruction can be executed in multiple modes of execution, each of which constitutes a

separate ISA.).

20.   As per claim 3:

McGrath disclosed the processor of claim 1, wherein the system commands

belongs to the second instruction set (McGrath: Column 9 lines 26-55)(The SYSCALL

instruction can be executed in multiple modes of execution, each of which constitutes a

separate ISA.).

21.   As per claim 4:

McGrath disclosed the processor of claim 1, wherein the common Bytecode

corresponds to a predetermined prefix, wherein the first and second instruction set each

comprises the predetermined prefix (McGrath: Column 9 lines 26-55)(A predetermined

prefix is an instruction that indicates at least one system command will follow. The

SYSCALL instruction indicates that a system call will be made to execute an OS

routine. Thus, it indicates at least one system command will follow.).

22.   As per claim 8:

The processor of claim 4 wherein the predetermined prefix is decoded (McGrath:

Column 9 lines 26-55)(It's inherent that the processor decodes the SYSCALL instruction

so that the correct call to an OS routine can be made.).

Maintained Claim Rejections - 35 USC § 103

23.   The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

24.   Claim 5 is rejected under 35 U.S.C. §103(a) as being unpatentable over McGrath

et al. (U.S. 6,560,694).

25.   As per claim 5:

McGrath disclosed the processor of claim 4.

McGrath failed to teach the predetermined prefix is a Java Impdep2 Bytecode.

However, these differences are only found in the nonfunctional descriptive

material and are not functionally involved in the steps recited. The system commands

are accessible to both instruction set architectures regardless of the predetermined

prefix being a Java Impdep2. Thus, this descriptive material will not distinguish the

claimed invention from the prior art in terms of patentability, see *In re Gulack,* 703 F.2d

1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry,* 32 F.3d 1579, 32

USPQ2d 1031 (Fed. Cir. 1994).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time of the invention to use any type of predetermined prefix to show the next instruction

is a system command because the subjective interpretation of the data does not

patentably distinguish the claimed invention.

26.   Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over McGrath

et al. (U.S. 6,560,694), further in view of Park et al. (U.S. 6,832,305).

27.   As per claim 6:

McGrath disclosed the processor of claim 4.

McGrath failed to teach wherein the processor further comprises a pre-decode

logic coupled to the decode logic, and wherein the pre-decode logic is adapted to pre-

decode the predetermined prefix concurrently with a preceding instruction.

However, Park disclosed wherein the processor further comprises a pre-decode

logic coupled to the decode logic, and wherein the pre-decode logic is adapted to pre-

decode concurrently with the decode logic decoding a preceding instruction (Park:

Figure 1 element 113 and 170, column 4 lines 1-30).

The advantage of using a predecoder in a multiple ISA system is that the

processor will know sooner which type of instruction is being fetched. The decoder will

then correctly decode according to the information gathered by the predecoder. One of

ordinary skill in the art at the time of the invention would have been motivated by

correctly decoding instructions earlier to implement a predecoder. Thus, it would have

been obvious to one of ordinary skill in the art at the time of the invention to implement a

predecoder to correctly decode instructions quicker than letting the decoder do both

tasks.

McGrath and Park failed to teach wherein the pre-decode logic is adapted to pre-

decode the predetermined prefix concurrently with a preceding instruction.

However, it would have been obvious to one of ordinary skill in the art to

implement the predecoder to detect the SYSCALL instructions. A SYSCALL instruction

is essentially an unconditional branch instruction. By having a predecoder detect

SYSCALL instructions, it's possible to fetch instructions needed to execute for the

system routine without waiting for the jump address to be fetched after the decoding

state. Accordingly, the predecoder will result in increased performance due to the

system routine being executed quicker. Thus, it would have been obvious to one of

ordinary skill in the art at the time of the invention to implement the predecoder of Park

to predecode for SYSCALL instructions in McGrath for the advantage of executing

system routines quicker.

Response to Arguments

28.   The arguments presented by Applicant in the response, received on 6/30/2006

are not considered persuasive.

29.   Applicant argues "McGrath failed to teach the first mode corresponds to a first

instruction set and the second mode corresponds to a second instruction set" for claims

1 and 16.

This argument is not found to be persuasive for the following reason. The

examiner disagrees with applicant's assertion that the 32-bit instruction set and the 16-

bit instruction set of McGrath are the same instruction set. Applicant further states that

these instruction sets may be for backwards compatibility. The examiner agrees that

the 16 and 32 bit instruction sets could be for backwards compatibility, but disagrees

that they are a single instruction set. The instructions in both sets are inherently different sizes and are therefore different. Even if the instructions in each group were exactly the same, each group would comprise an instruction set because they each are a group of instructions that are executed by the processor.

30.   Applicant argues "McGrath failed to teach system commands are accessible in either mode through a common bytecode" for claim 1.

This argument is not found to be persuasive for the following reason. The SYSCALL command is the system command that is shared among the instruction sets.

31.   Applicant argues "McGrath and Park failed to teach detecting a predetermined prefix indicating a succeeding instruction is a system command" for claim 9.

This argument is found to be persuasive for the following reason. The combination of McGrath and Park would allow for the predecode unit of Park to be able to detect the SYSCALL instruction of McGrath. However, detecting the SYSCALL instruction doesn't indicate that the succeeding instruction is a system command. The combination of McGrath and Park detects the SYSCALL instruction to indicate that the current instruction is a system command. In addition, this limitation hasn't been found within the prior art. This claim isn't allowable yet due to 101 and 112 1st and 2nd paragraph rejections given above.

32.   Applicant argues "McGrath failed to teach refraining from decoding the predetermined prefix" for claim 9.

This argument is found to be persuasive for the following reason. The examiner

agrees that McGrath failed to teach this limitation. However, due to 112 1st and 2nd

paragraph rejections given above, this limitation has not been examined.

33.   Applicant argues "McGrath and Park failed to teach the predecode logic detects

a predetermined prefix indicating a succeeding instruction is a system command" for

claims 16 and 24.

This argument is found to be persuasive for the following reason. The

combination of McGrath and Park would allow for the predecode unit of Park to be able

to detect the SYSCALL instruction of McGrath. However, detecting the SYSCALL

instruction doesn't indicate that the succeeding instruction is a system command. The

combination of McGrath and Park detects the SYSCALL instruction to indicate that the

current instruction is a system command. In addition, this limitation hasn't been found

within the prior art and these claims are now allowable.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

The following is text cited from 37 CFR 1.111(c): In amending in reply to a

rejection of claims in an application or patent under reexamination, the applicant or

patent owner must clearly point out the patentable novelty which he or she thinks the

claims present in view of the state of the art disclosed by the references cited or the

objections made. The applicant or patent owner must also show how the amendments

avoid such references or objections.

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Chennupaty et al. (6,014,735), taught instruction set extensions using prefixes.

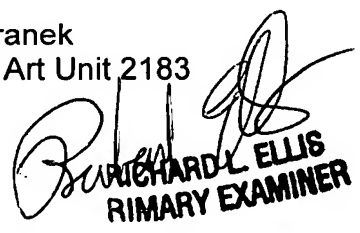Green (U.S. 6,253,287), taught using instruction prefixes.

Kahn et al. (U.S. 6,625,724), taught instruction set extensions using prefixes.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Jacob Petranek whose telephone number is 571-272-

5988. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for

the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Petranek
Examiner, Art Unit 2183

RICHARD L. ELLIS
PRIMARY EXAMINER